No new matter has been added.

Rejection under 35 U.S.C. §112, first paragraph

The Examiner has maintained his rejection of claims 1-16 under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s) at the time the application was filed had possession of the claimed invention.

According to the Examiner, the specification does not adequately describe what the terms "RIP activity" or "stringent conditions" encompass.

Applicants have amended claim 1 to further define the terms "RIP activity" and "stringent conditions" as provided by the specification. (See page 21, lines 24-27, and page 22, lines 18-24.)

In view of these amendments, Applicants respectfully request that the Examiner reconsider and withdraw his rejection of now pending claims 1-6 and 8-16 under 35 U.S.C. §112, first paragraph.

Rejection under 35 U.S.C. §112, second paragraph

The Examiner has rejected claims 1, 6 and 9-10 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner has maintained his rejection of claim 1 in view of the recitation of the term "RIP60 activity" because, as stated previously, "it is unclear which RIP60 activity Applicant is referring to." Applicants have amended claim 1 to further define RIP60 activity. (See page 21, lines 24-27.)

The Examiner has also maintained his rejection of claim 1 in view of the recitation of the term "under stringent conditions" because, as stated previously, the term is ambiguous. Applicants have further amended claim 1 to include the stringent conditions recited in the specification. (See page 22, lines 9-18.)

Accordingly, in view of these amendments, claim 1 is considered definite.

The Examiner has maintained his rejection of claim 6 in view of the recitation of the term "sequences having the database accession numbers of Table 1." Claim 6 is further rejected because the limitation "other than the exact sequence" is a negative limitation. Applicants have

amended the claim to remove the provision of the negative limitation in its entirety. This amendment does not narrow the scope of the claim.

The Examiner has maintained his rejection of claims 6 and 9-10 because of the recitation of the term "unique fragment." Applicants have amended claims 6 and 9-10 to remove the term "unique." This amendment does not narrow the scope of the claim.

Accordingly, in view of these amendments, claims 6 and 9-10 are considered definite.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1, 6, and 9-10 under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. §102(a)

The Examiner has maintained his rejection of claims 1-3 and 6-9 under 35 U.S.C. §102(a) in view of Sulston et al. (Genome Research, 8(11):1097-1108, 1998). Previously, the Examiner stated that the Sulston et al. reference discloses the polynucleotide sequences reciting SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:50. The Examiner now states that "the date of publication disclosed in the Genbank listing is prior to Applicant's priority date (1998)" but that the dates upon which the sequences disclosed in the GenBank listing (Accession Number AC005586, in its present form, as relied on by the Examiner) "were publicly available ... are currently being determined."

Applicants respectfully traverse the rejection for the reasons stated below.

The Sulston et al. reference was published in November 1998. It provides no explicit sequence information. It does, however, refer to sequence data posted at the Sanger website. The Examiner has not provided the sequence that was made available by Sulston et al. as of November 1998 on the Sanger website. The Examiner has provided a GenBank listing for the sequence having Accession Number AC005586 submitted by Sulston et al. which is reported to be the complete sequence of the Homo Sapiens PAC clone RP4-584D14 from chromosome region 7q31-q35, having a length of 132150 nucleotides. The GenBank listing (the front page of which is attached hereto as Appendix B) indicates that the sequence, in the form presented and relied upon by the Examiner, was made publicly available by GenBank on September 30, 2000 (see A). Accordingly, the nucleotide sequence cited and relied upon by the Examiner is not prior art because it was made publicly available (in the form cited by the Examiner) only after the priority date of the present application (i.e., January 1999).

Applicants found and herewith provide the revision history for Accession Number AC005586, and sequence data submitted to GenBank by Sulston et al. prior to the priority date of the present application. (See Appendices C-1 and C-2.) The revision history indicates that the sequence was first deposited with GenBank on September 1, 1998, with subsequent sequence revisions submitted on November 22, 1998, June 12, 2000, and September 30, 2000.

The September 1998 deposit, the earliest deposit, is a working draft of the Homo Sapiens clone DJ0584D14, and it consists of 18 arbitrarily ordered contigs with 17 gaps of unknown size therebetween. The November 1998 deposit is also a working draft of the same clone, and it consists of 3 arbitrarily ordered contigs with 2 gaps of unknown size therebetween.

Notwithstanding that the Examiner has not met his burden of proof of establishing that the Sulston et al. references anticipate the subject matter of the pending claims, Applicants provide herewith, as Appendix D, a Declaration under 37 C.F.R. §1.131 of Nicholas H. Heintz, one of the co-inventors of the present application. The Declaration sets forth proof that Applicants had conception and reduction to practice of the subject matter of the rejected claims prior to the publication date of the Sulston GenBank submission in September 1998. Attached to the Declaration is Exhibit 1, the RIP60 nucleic acid sequence possessed by the inventor prior to September 1998; Exhibit 2, the RIP60 nucleic acid sequence as filed in the present invention; and Exhibit 3, a comparison of the sequences of Exhibits 1 and 2. Accordingly, Applicants believe that the rejection of claims 1-3 and 6-9 is obviated.

In an Advisory Action in response to the Office Action Response filed by Applicants on February 8, 2002, the Examiner stated that the above-noted Declaration was not presented in a timely manner, and that it should have been submitted in response to the original rejection outlined in Office Action (Paper No. 9). Applicants maintain that the Examiner failed to meet his burden in establishing a rejection under 35 U.S.C §102(a) in Office Action (Paper No. 9), since no sequence information was presented by the Examiner to substantiate the rejection.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-3 and 6-9 under 35 U.S.C. §102(a) as being anticipated by Sulston et al. (Genome Research, 8(11):1097-1108, 1998).

Rejection under 35 U.S.C. §103(a)

The Examiner has maintained his rejection of claims 1-16 under 35 U.S.C. §103(a) as being unpatentable over Sulston et al. (Genome Research, 8(11):1097-1108, 1998). Previously,

the Examiner stated that Sulston et al. disclose "the polynucleotide sequences recited SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 and 50 (and) consequently, said reference anticipates all the limitations of the instant claims". The Examiner further stated that although "Sulston et al. does not explicitly disclose incorporating said polynucleotides with a promoter in an expression vector, transfecting a host cells with said vector nor using said transformed cell to express the recombinant proteins recited in the instant claims ... it would be obvious to one of skill in the art to take a polynucleotide sequence, determine the open reading frames and incorporate it in a vector so the polypeptide encoded by said polynucleotide can be expressed cheaply and efficiently in a recombinant system."

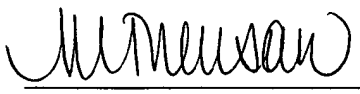
Applicants respectfully traverse the rejection for the same reasons stated above under the 102(a) rejection.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of now pending claims 1-6 and 8-16 under 35 U.S.C. §103(a) as being unpatentable over Sulston et al. (Genome Research, 8(11):1097-1108, 1998).

Summary

Applicants believe that each of the pending claims now is in condition for allowance. If the Examiner has any questions and believes that a telephone conference with Applicants' representative would prove helpful in expediting the prosecution of this application, the Examiner is urged to call the undersigned at (617) 720-3500 (ext. 266).

Respectfully submitted,



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Attorney's Docket No.: V0139/7038 (HCL/MAT)
Date: April 9, 2002
x04/09/02

APPENDIX A:

MARKED-UP SPECIFICATION

Please re-write the paragraph beginning on page 22, line 9, as follows (*noting that the new text has been indicated with a double underline to distinguish it from text that was original present in an underlined form and thus unchanged*):

Homologs and alleles of the RIP60 nucleic acids of the invention can be identified by conventional techniques. Thus, an aspect of the invention is those nucleic acid sequences which code for RIP60 polypeptides and which hybridize to a nucleic acid molecule consisting of the coding region of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:50 under stringent conditions. The term "stringent conditions" as used herein refers to parameters with which the art is familiar. Nucleic acid hybridization parameters may be found in references which compile such methods, e.g. Molecular Cloning: A Laboratory Manual, J. Sambrook, et al., eds., Second Edition, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, 1989, or Current Protocols in Molecular Biology, F.M. Ausubel, et al., eds., John Wiley & Sons, Inc., New York. More specifically, stringent conditions, as used herein, refers, for example, to hybridization at 65°C in hybridization buffer (3.5x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4(pH7), 0.5% SDS, 2mM EDTA). SSC is 0.15M sodium chloride/[0.15M] 0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid. After hybridization, the membrane upon which the DNA is transferred is washed at 2x SSC at room temperature and then at 0.1x SSC/0.1% SDS at temperatures up to 68°C.

MARKED-UP CLAIMS

Please cancel claim 7. Please re-write the claims as shown below. A marked-up copy of the claims is attached to the end of this amendment as Appendix A.

1. (Twice Amended) An isolated nucleic acid molecule, comprising

(a) a nucleic acid molecule which hybridizes under stringent conditions to a molecule consisting of a nucleic acid of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, or SEQ ID NO:50 and which codes for a polypeptide having a RIP60 activity selected from the group consisting of DNA binding, protein multimerization, and nucleic acid looping,

(b) a nucleic acid molecule that differs from the nucleic acid molecule of (a) in codon sequence due to the degeneracy of the genetic code, and

(c) complements of (a) or (b),

wherein the stringent conditions are hybridization at 65°C in hybridization buffer (3.5x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4 (pH7), 0.5% SDS, 2mM EDTA); wherein SSC is 0.15M sodium chloride/0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid.

2. The isolated nucleic acid molecule of claim 1, wherein the isolated nucleic acid molecule comprises SEQ ID NO:1.

3. The isolated nucleic acid molecule of claim 1, wherein the isolated nucleic acid molecule comprises SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:50.

4. The isolated nucleic acid molecule of claim 1, wherein the isolated nucleic acid molecule codes for a polypeptide comprising SEQ ID NO:2.

5. The isolated nucleic acid molecule of claim 1, wherein the isolated nucleic acid molecule codes for a polypeptide comprising SEQ ID NO:4, SEQ ID NO:6 or SEQ ID NO:51.

6. (Twice Amended) An isolated nucleic acid molecule selected from the group consisting of

(a) a [unique] fragment of nucleic acid molecule of SEQ ID NO:1, and

(b) complements of (a)[,

provided that the unique fragment includes a sequence of contiguous nucleotides other than the exact sequence of any sequence selected from the sequence group consisting of

(1) sequences having the database accession numbers of Table 1, as published prior to January 4, 1999,

(2) complements of (1), and

(3) fragments of (1) and (2)].

8. (Amended) The isolated nucleic acid molecule of claim 6 [or 7], wherein the fragment has a size selected from the group consisting of at least: 8 nucleotides, 10 nucleotides, 12 nucleotides, 14 nucleotides, 16 nucleotides, 18 nucleotides, 20[,] nucleotides, 22 nucleotides, 24 nucleotides, 26 nucleotides, 28 nucleotides, 30 nucleotides, 50 nucleotides, 75 nucleotides, 100 nucleotides, and 200 nucleotides.

9. (Amended) The isolated nucleic acid molecule of claim 6 [or 7], wherein the [unique] fragment encodes a peptide which is a fragment of a polypeptide consisting of SEQ ID NO:2.

10. (Amended) The isolated nucleic acid molecule of claim 8, wherein the [unique] fragment encodes a peptide which is a fragment of a polypeptide consisting of SEQ ID NO:2.

11. An expression vector comprising the isolated nucleic acid molecule of claims 1, 2, 3, 4 or 5 operably linked to a promoter.

12. An expression vector comprising the isolated nucleic acid molecule of claim 9, operably linked to a promoter.

13. An expression vector comprising the isolated nucleic acid molecule of claim 10, operably linked to a promoter.

14. A host cell transformed or transfected with the expression vector of claim 11.

15. A host cell transformed or transfected with the expression vector of claim 12.

16. A host cell transformed or transfected with the expression vector of claim 13.